

646.3313

Work Order ID 135457

B 1 8 5 4 5 7

135457

Page 1

Wednesday, August 12, 2015 4:29:23 PM

REV. N/C3

Item ID: 646.3313

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Upper Guide

Start Date: 8/12/15

Start Qty: 4.00

4

Cust Item ID:

Required Date: 8/12/15

Req'd Qty: 4.00

4

Customer:

Reference:

Approvals:

Process Plan: MLS

Date:

AUG 14 2015

Tooling:

Date:

Run Start *NR1*

QC:

Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

646.3300

N/C3

100

0.00

100

BAND SAW

Bandsaw

Memo

0.02

Jeaspa Bandsaw

Cut Blank at 13.500"

*** ONE BLANK MAKES TWO PARTS ***

110

0.00

110

HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.23

HAAS CNC vertical machine #1

1-Machine per folio FB152

DWG REV: N/C

FOLIO REV: AA

2- deburr and break all sharp edges

P.T.O.

NCR →

DQA:

Date:

15/10/19



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date:

15/10/02

Work Order update only ☐

Work Order: <u>135457</u> Part No. <u>6463313</u> NCR No. <u>15-5390</u>		DISPOSITION Rework ☐ Scrap ☒ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Cross tube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☒</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☒	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																				
Machining ☒	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																				
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																				
Large Fab ☐	Composite ☐	Supplier ☐																					
Date: <u>15/09/22</u>		Step #: <u>110</u>		QTY Effective: <u>2</u>		MRB (QSI042) Approval DAS 9 9-89 <u>15-09-22</u>																	
Description Work Order Deviation				Disposition																			
2 pieces damage in set-up, pieces are out of tolerance. to R-C → Set up clamp were not properly tight on piece witch cause the pieces to Move in set-up				Scrap + replace Band M133215 → 1.130'		Completed By																	
						<u>15/09/22</u>																	
						Lead hand / Supervisor Approval Verification DAS 08 9-89 <u>15/09/22</u>																	
QC / QA Coordinator Approval		DAS 9 9-89 <u>15-09-22</u>																					

Root Cause				FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐		
Design ☐	Operator ☒	Bending ☐	Set-up ☒	Folio/Program ☐	Outside Dimensions ☐		
Doc/Data ☐	Offset/Set-up ☒	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐		
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐		
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐		
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐		
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐		
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐		
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐		
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐		
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :					
Misidentified ☐	Past Due ☐						

Work Order ID 135457***135457***

Page 2

Item ID: 646.3313

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Upper Guide

Start Date: 8/12/15

Start Qty: 4.00

4

Cust Item ID:

Required Date: 8/12/15

Req'd Qty: 4.00

4

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start ***NR1***

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

120

QC2- Inspect parts off machine FAI/FAIB

0.00

120

QC

Memo

0.00

Quality Control

10215/09/22

130

QC8- Inspect parts - second check

0.00

130

QC

Memo

0.00

Quality Control

10DAS
14
9-8915/09/23

131

0.00

131

HandFinish

Memo

0.03

Hand Finishing

CLEAN AND REMOVE ALL PART MARKING

N/A 15-09-23

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																		
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Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																		
Large Fab ☐	Composite ☐	Supplier ☐																			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval																	
Description Work Order Deviation		Disposition		Completed By																	
				Lead hand / Supervisor Approval Verification																	
				QC / QA Coordinator Approval																	
Root Cause		FAULT CATEGORY																			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐																
OTHER : ☐																					

Work Order ID 135457

Wednesday, August 12, 2015 4:29:23 PM

135457

Page 3

Item ID: 646.3313 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Upper Guide
Start Date: 8/12/15 Start Qty: 4.00 ***4*** Cust Item ID:
Required Date: 8/12/15 Req'd Qty: 4.00 ***4*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140	Outsource process-Anodize per OSI017 4.1.10.1	0.00							
140									
Outsource4	Memo	0.00							
Outsource process - Anodize	Issue P/O to ATG : <u>29893</u>								
	1- Black Anodize as per Dwg 646.3300								
	2- PRIME AS PER DWG, SEE NOTE #2								
	Certification of Conformity is required								
150	Receive & Inspect for Damage & Mat'l Certs	0.00							
150									
Packaging	Memo	0.00							
Packaging									
155	QC5- Inspect part completeness to step on W/O	0.00							
155									
QC	Memo	0.00							
Quality Control									

DAS 6 9-89 10 SEP 30 2015 10 15-10-02

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Work Order ID 135457***135457***

Page 4

Item ID: 646.3313

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Upper Guide

Start Date: 8/12/15 Start Qty: 4.00

4

Cust Item ID:

Required Date: 8/12/15 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180	Identify as per dwg & Stock Location	0.00				10	DAS 3 -89		
180									
Packaging	Memo	0.00							
Packaging	***IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV***								OCT 02 2015
190	QC21- Final Inspection - Work Order Release	0.00							
190									
QC	Memo	0.00				MLS			OCT 05 2015
Quality Control									

MLS OCT 05 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

Picklist Print

Wednesday, August 12, 2015 4:29:22 PM

Page 1

Work Order ID: 135457

135457

Parent Item: 646.3313

646 3313

Parent Item Name: Upper Guide

Start Date: 8/12/15

Required Date: 8/12/15

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP REV:A NEW ISSUE 12/11/14 JFS VERIFY BY: JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M7075T6B5.000X0.375		Purchased			No	100	f	10.0590	0.563	2.370526			

M7075T6B5 000X0 375

7075-T6 BAR 5.000" X 0.375"

15/09/22

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
MAT005	10.059	
m130175	2	
m131259	7.309	
m131552	0.75	

M133215

5,049
1,130'

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

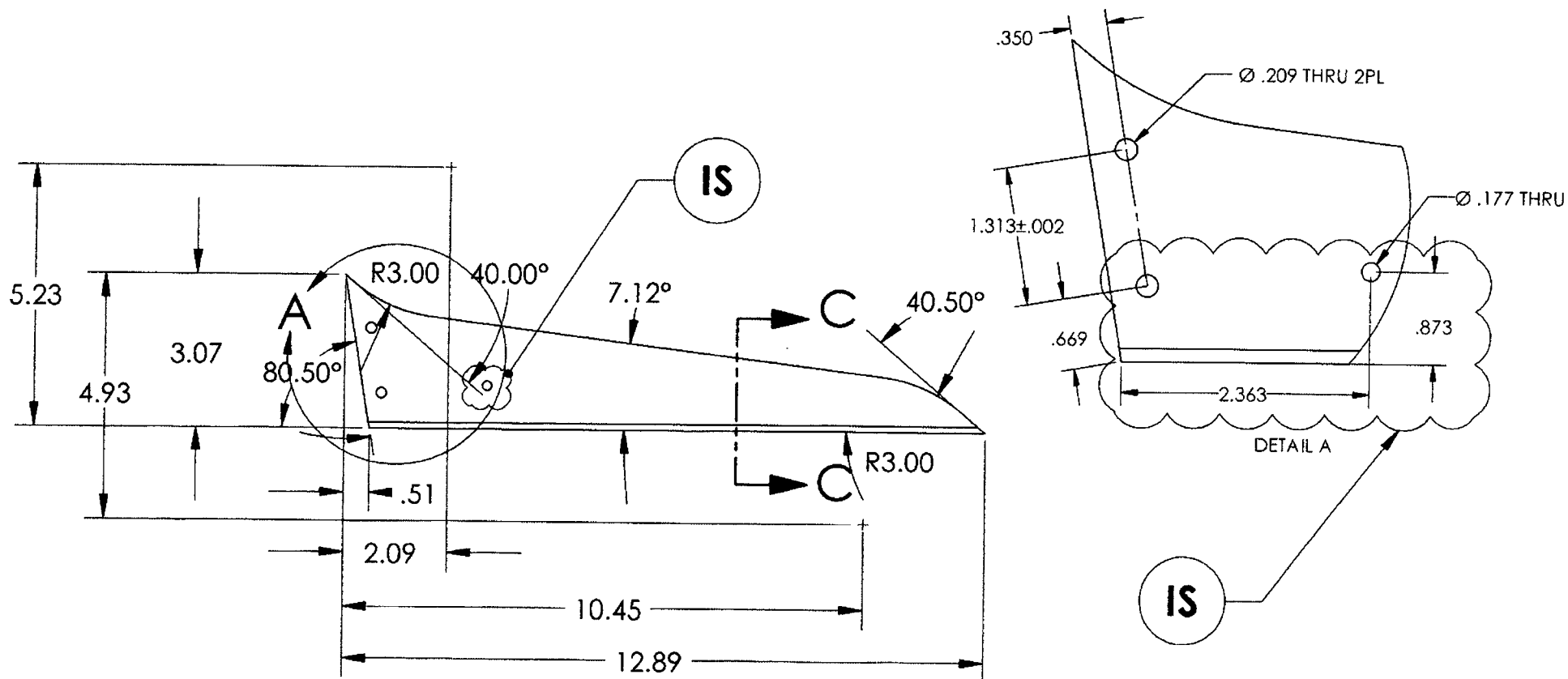
Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

APICAL
INDUSTRIES, INC.

ENGINEERING CHANGE NOTICE NO.		04765		SHEET 1 OF 1	
DWG NO.	646.3300	REV:	NC	PREPARED BY	J. SOTO
DATE:		12/08/2014		EFFECT ON DWG ☐ INC. ☒ UNINC.	
DWG TITLE: UPPER CUTTER ASSY					
APPROVED BY:	ENGR. <i>[Signature]</i>	MFG. <i>[Signature]</i>	QC <i>[Signature]</i>	EFF. NEXT ORDER	
REASON: ADDED HOLE DIMENSION TO 646.3313.					

TRANSACTION CODES (TC):
A-ADD C-CREATE
R-REVISE D-DELETE

SHEET 5 IS:



DOCUMENTS EFFECTED:	☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☐ BOM	CHANGE CATEGORY	DER REVIEW REQUIRED
		☐ MAJOR ☒ MINOR	☐ YES ☒ NO

APICAL
INDUSTRIES, INC.

ENGINEERING CHANGE NOTICE NO. 03724

SHEET 1 OF 1

DWG NO. 646.3300

REV: N/C

PREPARED
BY B. PETERS

DATE: 12/05/12

EFFECT ON DWG
☐ INC. ☒ UNINC.

DWG TITLE: UPPER CUTTER ASSY

APPROVED BY: ENGR *[Signature]*

MFG *[Signature]*

QC *[Signature]*

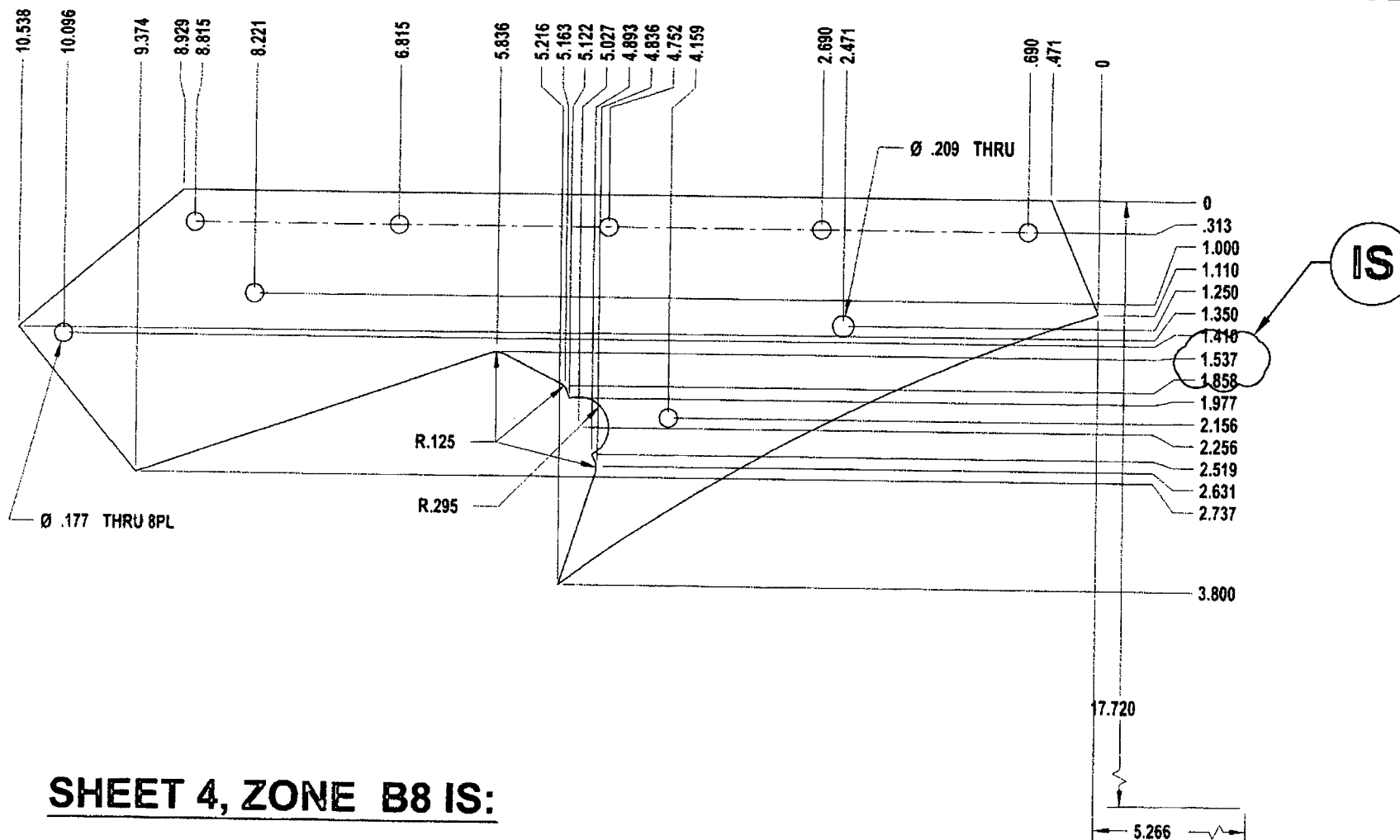
EFF: NEXT ORDER

TRANSACTION CODES (TC):
A-ADD C-CREATE
R-REVISE D-DELETE

REASON:

REVISED ORDINATE DIMENSION.

ECR:
D-12-025



SHEET 4, ZONE B8 IS:

DOCUMENTS EFFECTED:

☐ RFMS ☐ MDL ☐ INSTALL INSTRUC ☐ ICA ☐ BOM

CHANGE CATEGORY
☐ MAJOR ☒ MINOR

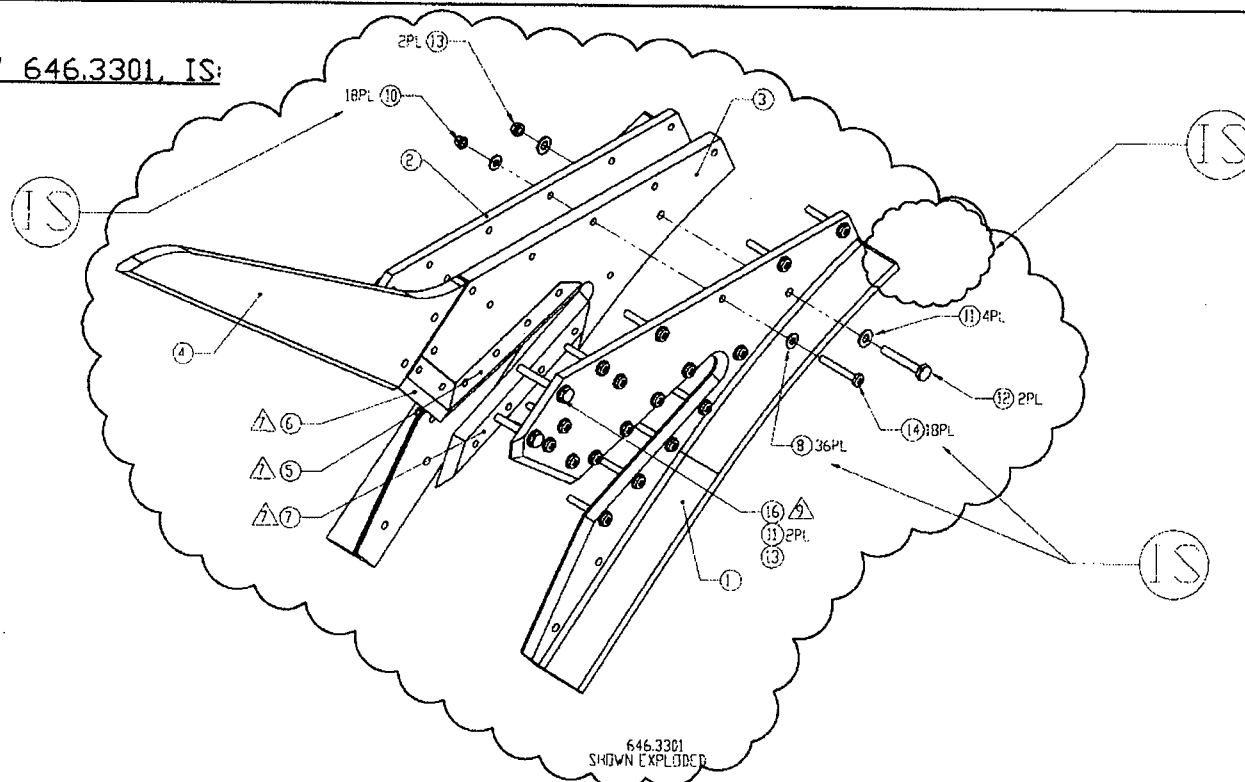
DER REVIEW REQUIRED
☐ YES ☒ NO

APICAL
INDUSTRIES, INC.

ENGINEERING CHANGE NOTICE NO. 02196		SHEET 1 OF 2	
DWG NO. 646.3300	REV: N/C	PREPARED BY S. HUFF	DATE: 01/05/09
DWG TITLE: UPPER CUTTER ASSY		EFFECT ON DWG ☐ INC. ☒ UNINC.	
APPROVED BY: ENGR <i>[Signature]</i>	MFG <i>[Signature]</i>	QC <i>[Signature]</i>	EFF: NEXT ORDER
REASON: REMOVED RIVETS IN FAVOR OF ADDITIONAL SCREWS			

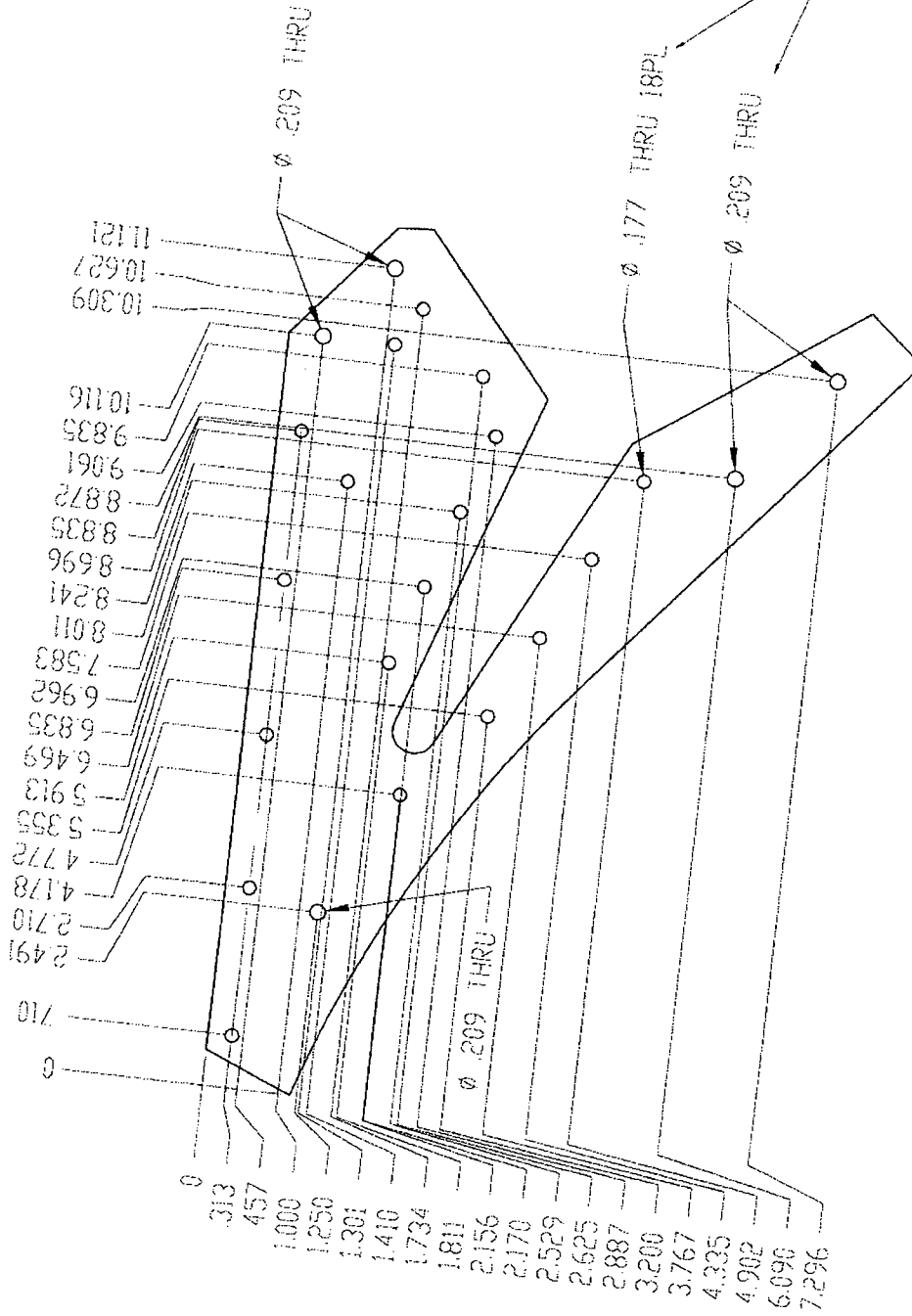
TRANSACTION CODES (TC)
A-ADD C-CREATE
R-REVISE D-DELETE

SHEET 1, VIEW 646.3301, IS:



14	R	601.2765	18	SCREW	MS27039-0819
10	R	601.1541	18	LOCKNUT	MS21042L08
9	D	601.2766	3	RIVET	MS20470AD5-18
8	R	601.2764	36	WASHER	NAS1149FN832P
			3301		
F/N TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL/SPECIFICATION	
DOCUMENTS EFFECTED:					CHANGE CATEGORY
☐ MDL ☒ INSTALL INSTRUC ☒ ICA ☐ FMS ☒ BOM					DER REVIEW REQUIRED
					☐ MAJOR ☒ MINOR
					☐ YES ☒ NO

SHEET 3. SECTION VIEW A-A, IS:

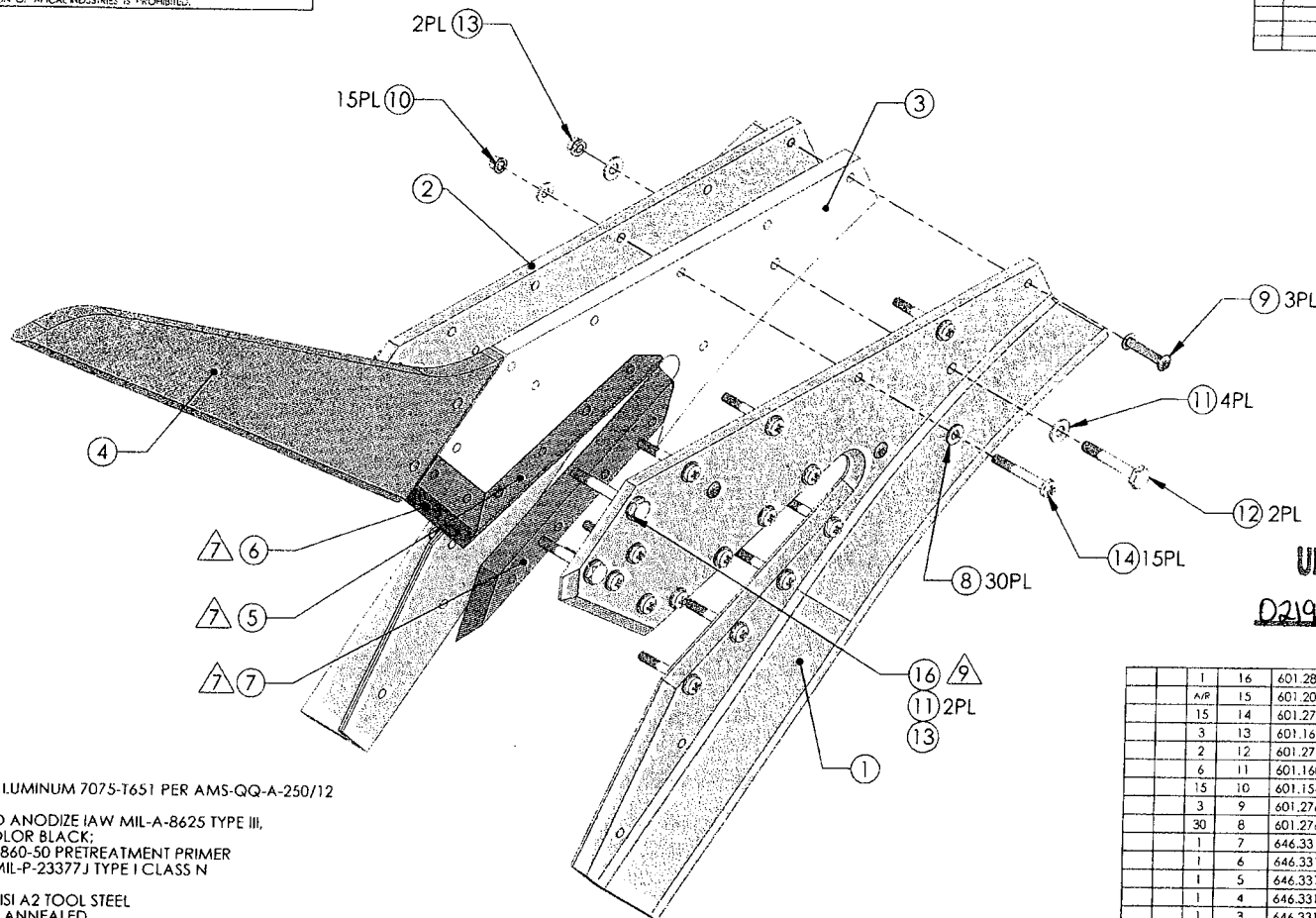


SECTION A-A

PART NUMBER	QTY	DESCRIPTION	MATERIAL/SPECIFICATION
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REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



UNINCORPORATED ECN(S)

02196, 03724, 04765

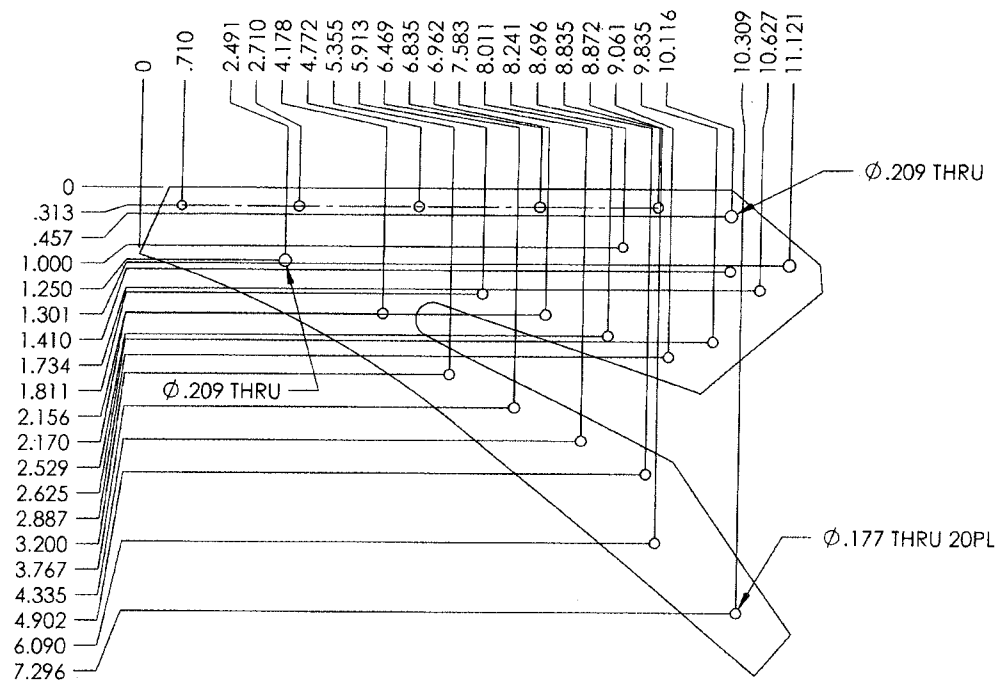
NOTES:

- ① MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12
- ② FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK;
CARDINAL 4860-50 PRETREATMENT PRIMER
PRIME IAW MIL-P-23377J TYPE I CLASS N
- ③ MATERIAL: AISI A2 TOOL STEEL
CONDITION: ANNEALED
POST PROCESS: HEAT TREAT TO 58-62 Rc ROCKWELL HARDNESS
- ④ FINISH: PRIME IAW MIL-P-23377J TYPE I CLASS N
5. DEBURR AND BREAK ALL SHARP EDGES EXCEPT WHERE OTHERWISE NOTED
6. IDENTIFY IAW MPP-120
- ⑦ APPLY F/N 15 AS REQUIRED TO ALL FAYING SURFACES OF F/N 5, 6 & 7 UPON ASSEMBLY
- ⑧ CUTTING EDGE INTENDED TO BE SHARP, DO NOT BREAK SHARP EDGE
- ⑨ INSTALL FASTENER FINGER-TIGHT

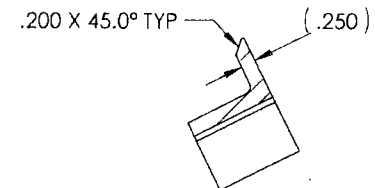
646.3301
SHOWN EXPLODED

QTY	FIND #	PART #	DESCRIPTION	MATL	SPEC.
1	16	601.2834	BOLT	ANB-144	
A/R	15	601.2045	RTV, LOCTITE 598		
15	14	601.2765	SCREW	MS27039-0815	
3	13	601.1624	LOCKNUT	MS21041S15	
2	12	601.2763	BOLT	ANB-124	
6	11	601.1607	WASHER	HA51149P033P	
15	10	601.1541	LOCKNUT	MS21041S15	
3	9	601.2766	RIVET	MS20470A-05-10	
30	8	601.2764	WASHER	HA51149P033P	
1	7	646.3316	BLADE	①	①
1	6	646.3315	BLADE	①	①
1	5	646.3314	BLADE	①	①
1	4	646.3313	UPPER GUIDE	①	①
1	3	646.3312	CENTER PLATE	①	①
1	2	646.3311	RH HALF	①	①
1	1	646.3310	LH HALF	①	①
1		646.3301	UPPER CUTTER ASSY		
QTY	FIND #	PART #	DESCRIPTION	MATL	SPEC.
PARTS LIST					
NEXT ASSY (S)			APICAL INDUSTRIES		
646.4000			2608 TEMPLE HEIGHTS DR.		
			OCEANSIDE, CA. 92056-3512 (760)724-5300		
			UPPER CUTTER ASSY		
			SCALE NONE		
			SHEET 1 OF 8		

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SECTION A-A

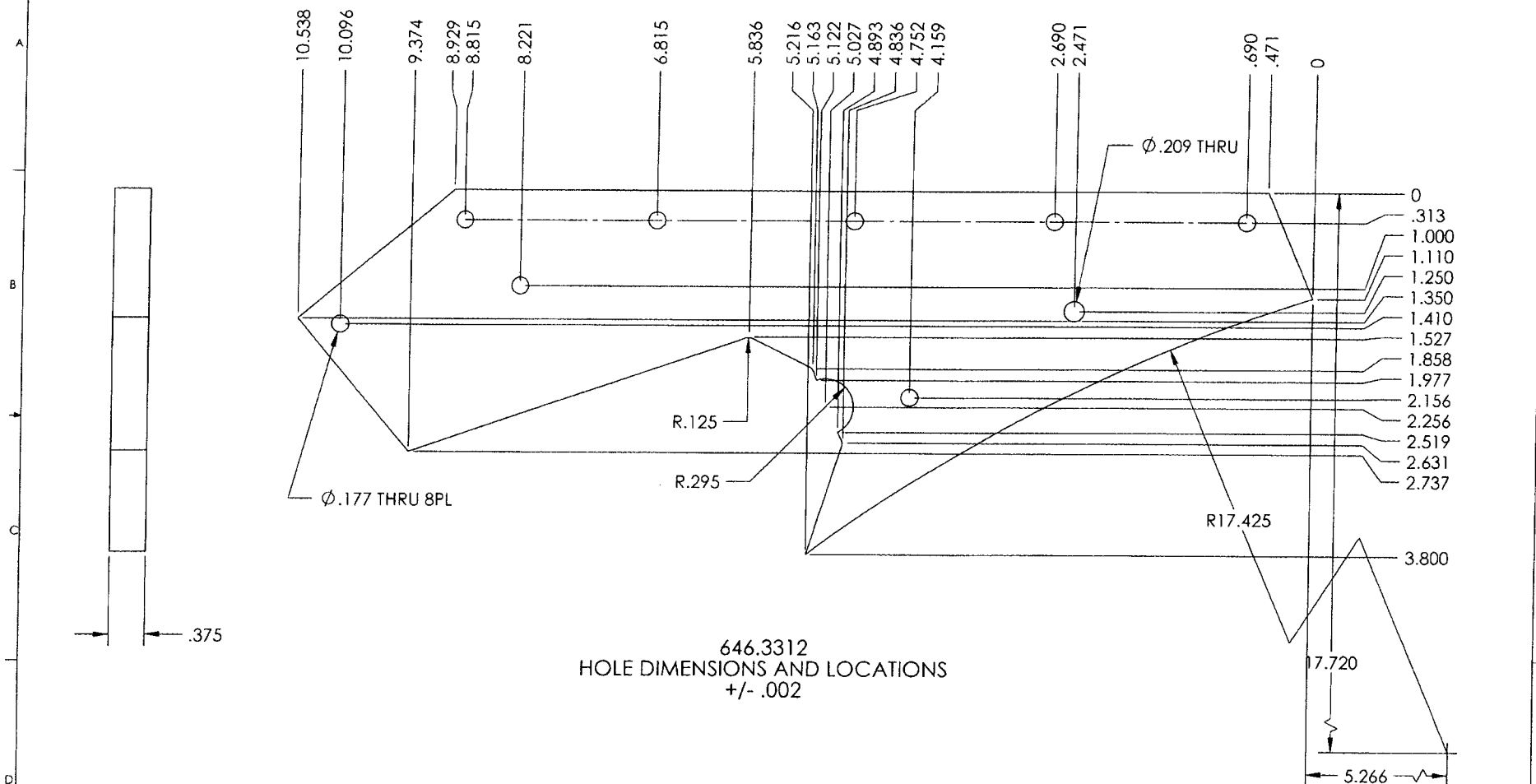


SECTION B-B

ORIGINAL DATE RMD DA-YR 08-29-06		APICAL INDUSTRIES	
QUANTITY	1	2608 TEMPLE HEIGHTS DR.	
DESIGNED BY	P. BRAYO	OCEANSIDE, CA. 92056-3512 (760)724-5300	
CHECKED BY		UPPER CUTTER ASSY	
DATE			
CONFIRMED BY			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES DIMENSIONS ARE 5 PLACE DECIMALS ANGLES ± .5°		SHEET NO. 071A26	REV. N/C
		SCALE NONE	SHEET 3 OF 8

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REV.	DESCRIPTION	DATE	APPROVED

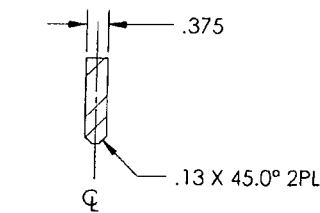
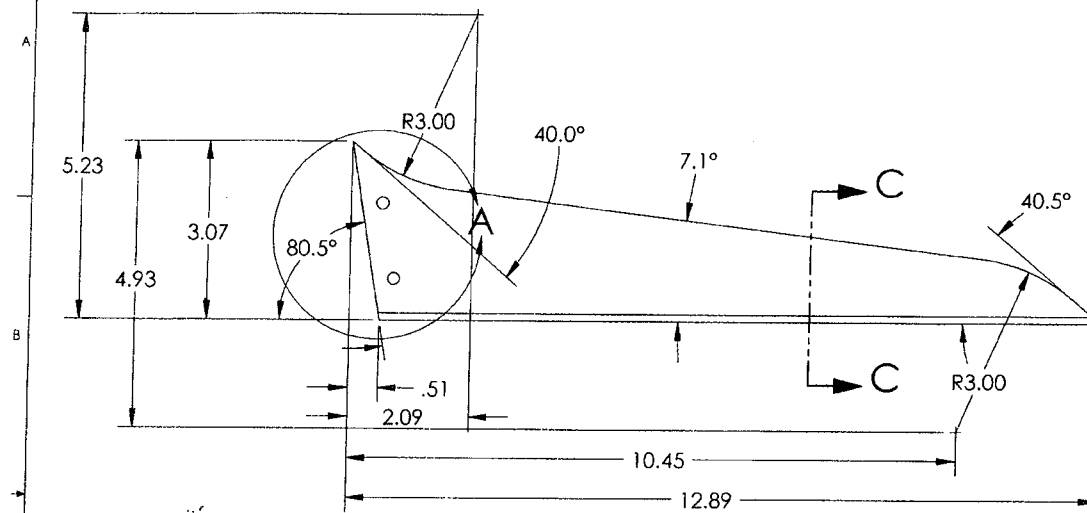


646.3312
HOLE DIMENSIONS AND LOCATIONS
+/- .002

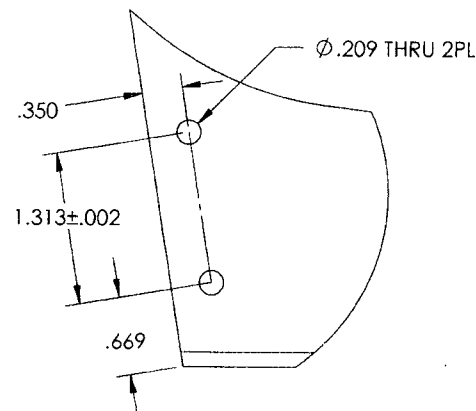
OPERATOR DATE MODIFIED DRAWN BY S. HUPP DRAWING APPROVAL P. BRAYGO 08-26-06 CONTRACT NO.	APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES DECIMALS ARE 1 PLACE DECIMALS 2 PLACE DECIMALS 3 PLACE DECIMALS 4 ANGLES 2 1/2	SHEET 8 OF 8 CAGE CODE 646.3300 DWG. NO. 07M26 SCALE NONE REV. N/C SHEET 4 OF 8

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

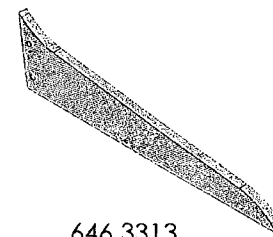
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



SECTION C-C



DETAIL A

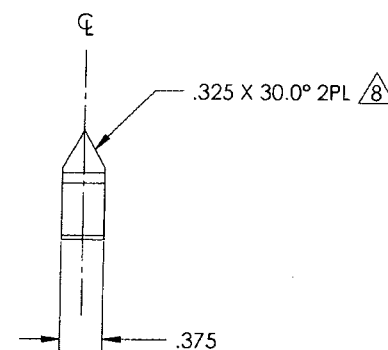
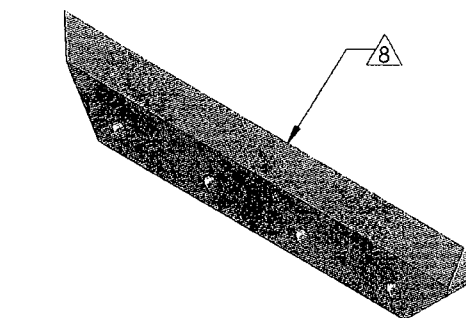
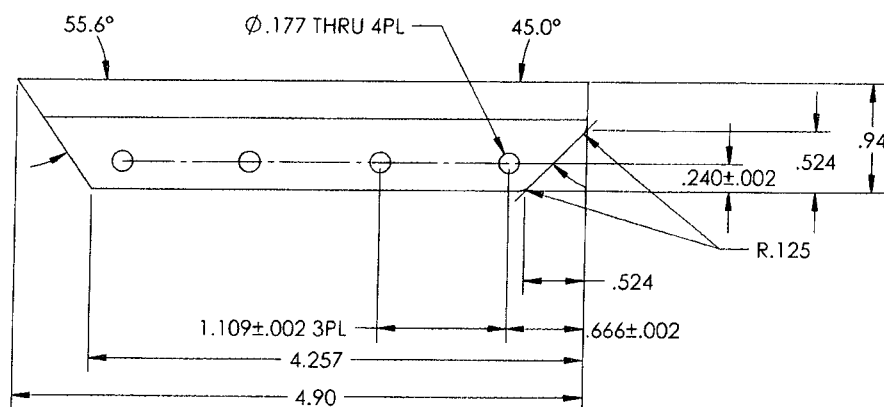


646.3313

ORIGINAL DATE INQ 08-26-08	APICAL INDUSTRIES		
DRAWN BY S. HUBB	2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300		
CHECKED P. SPANCO			
DRAWING APPROVAL 08-26-08			
CONTRACT# 146			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ± .01 3 PLACE DECIMALS ± .001 ANGLES ± .5°	UPPER CUTTER ASSY		
SHEET B	CAGE CODE 07M26	DWG NO 646.3300	REV N/C
SCALE NONE	SHEET 5 OF 8		

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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED

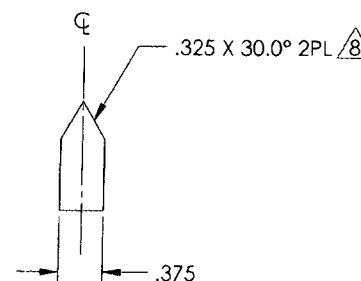
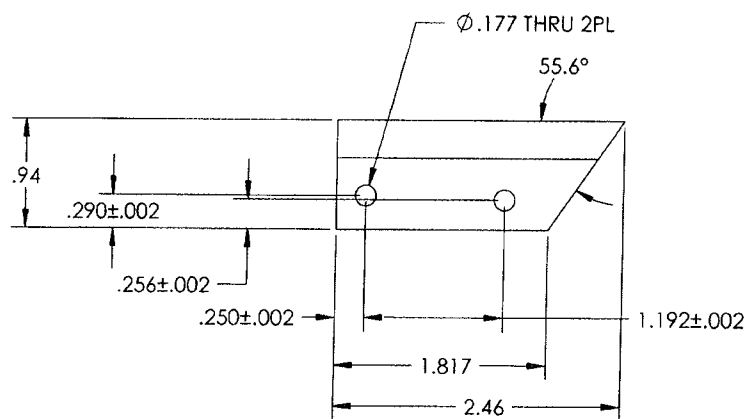
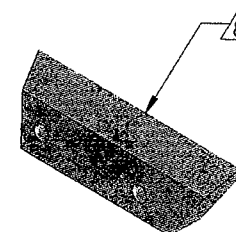


646.3314

ORIGINAL DATE 10/04/07	08/26/06	APICAL INDUSTRIES			
DRAWN BY S. CHIT	CHECKED BY P. BRAYO	2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA 92056-3512 (760)724-5300			
DRAWING APPROVAL P. BRAYO 08/26/06 CONTRACT NO:		UPPER CUTTER ASSY			
IF ALL OTHERS ARE SPECIFIED DIMENSIONS ARE IN INCHES DIMENSIONS ARE 2 PLACE DECIMALS 1/16 1 PLACE DECIMALS 1/32 ANGLES ± .5°		REV. 8	CAGE CODE 07M26	DOC. NO. 646.3300	REV. N/C
SCALE: NONE		SHEET 6 OF 8			

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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED

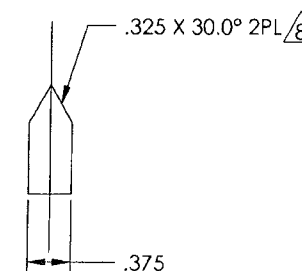
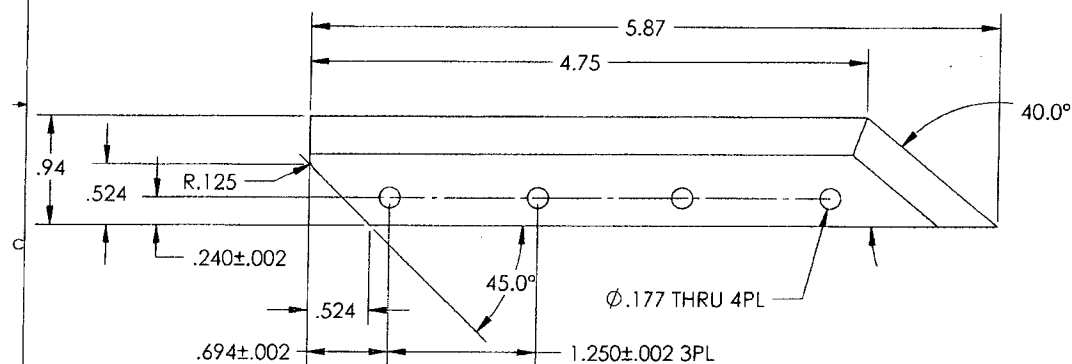
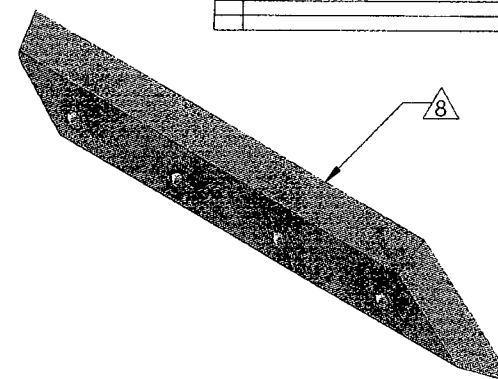


646.3315

ORIGINAL DATE 24-01-1981		APICAL INDUSTRIES	
DRAWN BY S. HUFF		2608 TEMPLE HEIGHTS DR.	
CHECKED BY P. BRAND		OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVAL DATE 05-24-86		UPPER CUTTER ASSY	
CONTRACT NO.		REF B	REV N/C
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE FRACTIONS DECIMALS L&L SPACE DECIMALS L&L ANGLES ± .5°		CAGE CODE 646.3300	SCALE NONE
		SHEET 7 OF 8	

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REV.	DESCRIPTION	DATE	APPROVED



646.3316

ORIGINAL DATE 10-20-08		APICAL INDUSTRIES	
DRAWN BY: J. HUFF		2608 TEMPLE HEIGHTS DR.	
DRAWING APPROVAL: J. HUFF		OCEANSIDE, CA. 92056-3512 (760)724-5300	
CONTRACT NO.		UPPER CUTTER ASSY	
ITEM	CAGE CODE	ENG. NO.	REV.
8	07M26	646.3300	N/C
SCALE: NONE		SHEET 8 OF 8	



A.T.G. Industries Inc.
731, rue Industrielle Rd.
PLATING DEPARTMENT
Rockland, On K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 63936

Date: 30-Sep-15

To

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7
Canada

Ship To

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7
Canada

Ph: 613-632-5200

Fax: 613-632-1185

Ph: 613-632-5200

Fax: 613-632-1185

Terms		Ship Via	
Quantity		Description	
10 ea	Part: 646.3313 UPPER GUIDE HARD ANODIZE BLACK AS PER MIL-A-8625 TY III, CLASS 2 PRIME AS PER MIL-P-23377J TYPE I CLASS N PRIMER IS SUPPLY BY THE CUSTOMER Job: 20150734 PO: PO29893	Rev: N/C	Line:
6 ea	Part: 646.3610 FILLER HARD ANODIZE AS PER MIL-A-8625 TY III, CLASS 2 PRIME AS PER MIL-P-23377J TYPE I CLASS N PRIMER IS SUPPLY BY THE CUSTOMER Job: 20150735 PO: PO29893	Rev: N/C	Line:
Certificate of Conformance A.T.G. Industries certifies that all items in this shipment are in conformance with all requirements, specifications and drawings referenced in the purchase order. ISO 9001 : 2008 REGISTERED ATG SALES-2010 TERMS APPLY DATE: 30/9/15 CERTIFIED SIGNATURE:  RECEIVER SIGNATURE: _____ 15/9/30 54			



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO29893**

Purchase Order Date 9/25/2015

PO Print Date 9/29/2015

Page Number 1 of 3

Order From :

VC-ATG001

A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE ROAD
ROCKLAND, ON K4K 1T2
CANADA

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone 613-446-4544

Ship To Contact

Ship To Phone

Ship Via: VENDOR'S TRUCK

Ship Acct:

Buyer

Customer POID

Customer Tax # 10127-2607

Terms

Currency

FOB

Chantal Lavoie

Net 30

CAD

FCA - (Free Carrier)

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	136799	D5155-9 CO-PILOT HEAD REV. B	9/29/2015 Yes 9/29/2015 Black Anodize per MIL-A-8625F Type I or IB or IC or II or IIB Class 2, Type III Class 2		2.00 ✓	\$31.25	\$62.50
Line Total:							\$62.50
2	136795	D5155-047 CO-PILOT HEAD ASSY REV. B	9/29/2015 Yes 9/29/2015 Black Anodize per MIL-A-8625F Type I or IB or IC or II or IIB Class 2, Type III Class 2		2.00 ✓ 15/9/210	\$31.25	\$62.50
Line Total:							\$62.50
3	135457	646.3313 UPPER GUIDE REV. N/C	9/29/2015 Yes 9/29/2015 FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE I CLASS N		10.00 ✓ 15/9/30	\$22.50	\$225.00
Line Total:							\$225.00

Note:

9/29/2015



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO29893

Purchase Order Date 9/25/2015

PO Print Date 9/29/2015

Page Number 2 of 3

Order From :

VC-ATG001

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE ROAD
ROCKLAND, ON K4K 1T2
CANADA

Contact Name

Vendor Phone 613-446-4544

Ship To Contact

Ship To Phone

Ship Via: VENDOR'S TRUCK

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax # 10127-2607

Terms Net 30

Currency CAD

FOB FCA - (Free Carrier)

Line Total: \$225.00

4	136278	646.3610 FILLER REV. N/C	9/29/2015	6.00	✓	\$22.50	\$135.00
---	--------	-----------------------------	-----------	------	---	---------	----------

Yes

9/29/2015

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE I CLASS N

Line Total: \$135.00

5	71401-45	PROCUREMENT QUALITY CLAUSES	9/29/2015	1.00	✓	\$0.00	\$0.00
---	----------	--------------------------------	-----------	------	---	--------	--------

Procurement Quality Clauses

A004 FAA-PMA /TSO

A005 RIGHT OF ENTRY

A016 PERSONNEL QUALIFICATION

A024 PROCESS CERTIFICATIONS

A025 CERTIFICATE OF CONFORMANCE

A041 QUALITY MANAGEMENT SYSTEM

A042 DART NOTIFICATION BY SUPPLIER

A043 RETENTION OF QUALITY DOCUMENTS

No
9/29/2015

16/9/130
SP

Line Total: \$0.00

Note:

9/29/2015

1	d5155-9	BLACK ANODIZE	2	LOT 125.00	
2	D5155-047	BLACK ANODIZE	2		
3	646.3313	HARD BLACK & PRIME	10	LOT 360.00	
4	646.3610	HARD BLACK & PRIME	6		
		REPEAT JOBS		NO	
PO# PO29893					